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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,741	03/19/2004	Gregory J. Manlove	DP-308739	8297
7590 07/27/2005			EXAMINER	
STEFAN V. CHMIELEWSKI			SUN, XIUQIN	
DELPHI TECHNOLOGIES, INC.				
Legal Staff MC CT10C			ART UNIT	
P.O. Box 9005			PAPER NUMBER	
Kokomo, IN 46904-9005			2863	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/804,741	Applicant(s) MANLOVE ET AL. 	
	Examiner Xiuqin Sun	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/21/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 7, 8, 10 and 16-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Perry (U.S. Pat. No. 20040264581).

As per claim 1, Perry discloses a sensor comprising: a sensing element for sensing a sensor characteristic (Fig. 1, #12); memory for storing data relevant to the sensor (Fig. 1, #22; section 0010, lines 8-13); output circuitry for outputting the sensor characteristic and the stored data in an output signal (Fig. 1, #18; section 0011); and a controller for controlling the outputting of the sensor characteristic and stored data, said controller transmitting the stored data in the output signal according to a first data communication protocol and transmitting the sensor characteristic in the output signal according to a second data communication protocol (sections 0013 and 0014).

As per claim 10, Perry discloses a method of transmitting sensor

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generated output data and stored data in an output signal according to first and second data communication protocols (the Abstract), said method comprising the steps of: sensing a sensor characteristic with a sensor (section 0010); storing data in the sensor (section 0010, lines 8-13); generating an output signal (section 0011); transmitting the stored data in the output signal according to a first data communication protocol (section 0014, lines 4-10); and transmitting the sensor characteristic in the output signal according to a second data communication protocol (section 0013).

As per claims 4 and 18, Perry further discloses: the stored data comprises calibration data relevant to the sensor (section 0010, lines 8-13).

As per claims 7, 8, 16 and 17: these claims recite an intended use of the sensor system taught by Perry for a pressure sensor in a vehicle. It has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains: Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry (U.S. Pat. No. 20040264581) in view of Eberhard et al. (U.S. Pat. No. 4481804).

Perry discloses the sensing system that includes the subject matter discussed above. Perry does not mention expressly: regarding claim 2, the stored data is transmitted in the first data communication protocol following a power reset; regarding claim 3, the stored data is transmitted during a predetermined time period; regarding claim 11, detecting a power reset, wherein the stored data is transmit following a power reset, and the sensor characteristic is transmit following transmission of the stored data.

Eberhard et al. disclose a method and apparatus for calibration of sensors, and teach: transmitting stored data relevant to the sensors in a data communication protocol following a power reset (col. 4, lines 18-42); the stored data is transmitted during a predetermined time period (col. 4, lines 18-30); and detecting a power reset, wherein the stored data is transmit following a power reset, and the sensor characteristic is transmit following transmission of the stored data (col. 4, lines 18-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Eberhard et al. in the invention of Perry in order to apply Perry sensor system to a special instance in which case a very simple memory mechanism is used for storing the sensor calibration data and the calibration data can be retrieved and transmitted at a desired time period after the sensor is powered on (Eberhard et al., col. 4, lines 18-42).

5. Claims 5, 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry (U.S. Pat. No. 20040264581) in view of Babala et al. (U.S. Pat. No. 6374679).

Perry discloses the sensing system that includes the subject matter discussed above. Perry does not mention expressly: regarding claim 5, said sensor further comprises temperature sensing circuitry for sensing a temperature characteristic, wherein the sensor characteristic and temperature characteristic are transmitted in the output signal according to the second data communication protocol as a pulse width modulated output signal containing an indication of the sensor characteristic, wherein one of the sensor and temperature characteristics is transmitted as a function of pulse width of the pulse width modulated output signal, and the other of the sensor and temperature characteristics is transmitted as a function of frequency of the pulse width modulated output signal; regarding claim 6, the one of the sensor and temperature characteristics is transmitted as a function of duty cycle of the pulse width modulated signal.

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Babala et al. teach a sensor system and method that includes: said sensor comprises temperature sensing circuitry for sensing a temperature characteristic (col. 3, lines 10-23 and col. 7, lines 51-63), wherein the sensor characteristic and temperature characteristic are transmitted in the output signal according to a data communication protocol as a pulse width modulated output signal containing an indication of the sensor characteristic (col. 3, lines 10-23 and col. 7, lines 51-63), wherein one of the sensor and temperature characteristics is transmitted as a function of pulse width of the pulse width modulated output signal, and the other of the sensor and temperature characteristics is transmitted as a function of frequency of the pulse width modulated output signal (col. 3, lines 10-23 and col. 7, lines 51-63); and the one of the sensor and temperature characteristics is transmitted as a function of duty cycle of the pulse width modulated signal (col. 7, lines 51-63).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Babala et al. in the invention of Perry in order to apply Perry sensor system to a vehicle ABS actuation system in which outputs from a temperature sensor and a pressure sensor are transmitted in a single data output signal, such as a pulse width modulated output signal (Babala et al., cols. 7-8, lines 51-4).

6. Claims 9, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry (U.S. Pat. No. 20040264581) in view of Balakirshnan et al. (U.S. Pat. No. 6229366).

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Perry teaches the sensor system and method that includes the subject matter discussed above. Perry does not mention explicitly: the output signal according to the first data communication protocol includes a constant frequency signal; the second data communication protocol comprises a variable frequency; and the frequency of the second data communication protocol varies as a function of temperature.

Balakirshnan et al. teach a pulse width modulated controller, wherein the output signal transmitted via a data communication protocol includes a constant frequency signal (col. 3, lines 65-67; col. 4, lines 1-15 and lines 34-40; col. 6, lines 18-29 and 49-67; col. 7, lines 1-8 and col. 10, lines 33-55); said data communication protocol also comprises a variable frequency (cols. 6-7, lines 49-8); and the frequency of said data communication protocol varies as a function of the magnitude of the frequency variation signal (cols. 7-8, lines 64-37).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Balakirshnan et al. in the invention of Perry in order to solve the problem associated with the startup of the pulse width modulation (Balakirshnan et al. and col. 2, lines 7-25).

Contact Information


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (571)272-2280. The examiner can normally be reached on 6:30am-4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571)272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

XS
July 22, 2005


MICHAEL NGHIEM
PRIMARY EXAMINER

Xiuqin Sun
Examiner
Art Unit 2863